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PATENT
Atty. Docket No. 10007924-1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

JEROLD SHAN

Serial No.: 09/852,611

Filed: May 9, 2001

For: AN ON-LINE SHOPPING CONVERSION
SIMULATION MODULE

Group Art Unit: 3621

Examiner: Calvin L. Hewitt, II

Conf. No.: 4891

APPEAL BRIEF
ON APPEAL TO THE BOARD OF PATENT APPEALS AND INTERFERENCES

Mail Stop Appeal Brief - Patent
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Appellant in the above-captioned patent application appeals the final rejection of claims 1, 4, 6-10, 13, 15-35 and 37-42 set forth in the Office Action mailed September 10, 2007, a Notice of Appeal having been timely filed on December 9, 2007. This Brief is being filed on the first business day after Saturday, February 9, 2007.

I. REAL PARTY IN INTEREST

The real party in interest in this application is Hewlett-Packard Development Company L.P., pursuant to an assignment recorded on January 14, 2002, at reel 012485, frame 0846 and a subsequent assignment recorded on September 30, 2003, at reel 014061, frame 0492.

II. RELATED APPEALS AND INTERFERENCES

Appellant is not aware of any related appeals, interferences or judicial proceedings.

III. STATUS OF CLAIMS

Claims 1, 4, 6-10, 13, 15-35 and 37-42 have been finally rejected and are the subject matter of this appeal. Claims 2, 3, 5, 11, 12, 14 and 36 have been canceled. In accordance with 37 C.F.R. § 1.192(c)(9), a copy of the claims involved in this appeal is included in the Claims Appendix attached hereto.

IV. STATUS OF THE AMENDMENTS

No amendment has been filed subsequent to the final rejection.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Generally speaking, the present invention concerns systems, methods and techniques that can be used to model previously offered sales promotions and then more efficiently deliver future promotions based on the results. In accordance with the preferred embodiments of the invention, data pertaining to shopping activity, attributes

of different promotions, and profiles of individual shoppers are provided to a model, which models shopping behavior and/or determines the effectiveness of different sales promotions, and which is then used to offer future promotions.

Thus, independent claims 1 and 10 are directed toward predicting whether an on-line shopper will be converted into becoming a purchaser of an item based on sales promotions offered by an on-line vendor. See, *e.g.*, page 5 line 18 to page 6 line 6 of the Specification. Initially, the following information is stored: customer profile information corresponding to a plurality of on-line shoppers, customer web log information corresponding to the plurality of on-line shoppers, and promotion attributes corresponding to a plurality of sales promotions that have been offered. See, *e.g.*, page 3 lines 7-10 and page 6 line 21 to page 8 line 7 of the Specification. Such information then is input into a model for simulating shopping behavior as a function of the customer profile information and the promotion attributes. See, *e.g.*, page 3 lines 10-13 of the Specification. Finally, promotions are offered based on the model. See, *e.g.*, page 2 lines 15-20 of the Specification.

Independent claim 35 is directed toward predicting what types of on-line shoppers will make purchases based on offered sales promotions. See, *e.g.*, page 5 line 18 to page 6 line 6 of the Specification. Initially, the following information is obtained: profile information for a plurality of shoppers; a set of promotion attributes pertaining to sales promotions that were offered to the shoppers; and behavioral information regarding the on-line shopping behaviors of the shoppers. See, *e.g.*, page 3 lines 7-13, page 5 lines 21-27 and page 6 line 21 to page 8 line 7 of the Specification. Based on the behavioral information, a mathematical model is used to relate the

promotion attributes to the profile information in order to estimate effectiveness of a particular sales promotion with respect to at least one specified shopper. See, e.g., page 2 lines 10-11, page 3 lines 10-13 and page 10 lines 14-27 of the Specification. Finally, promotions are offered based on the mathematical model. See, e.g., page 2 lines 15-20 of the Specification.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 10, 13, 15-18, and 27-34 stand rejected under 35 U.S.C. § 101; claims 6, 15, 21 and 29 stand rejected under 35 U.S.C. § 112, second paragraph; claims 1, 10, 19-25, 27-33, 35, and 37-40 stand rejected under 35 U.S.C. § 102(b) over U.S. Patent 5,848,396 (Gerace); and claims 4, 6-9, 13, 15-18, 26, 34, 41 and 42 stand rejected under 35 U.S.C. § 103(a) over Gerace.

VII. ARGUMENT

Authority Pertaining to Issues on Appeal

Anticipation Rejections Under 35 USC § 102

The requirements for showing anticipation under § 102 are described in M.P.E.P. § 2131 as follows:

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

With respect to a § 102 rejection, the Federal Circuit also has held that “The identical invention must be shown in as complete detail as is contained in the . . . claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920, (Fed.

Cir. 1989). “For a prior art reference to anticipate in terms of 35 U.S.C. § 102, every element in the claimed invention must be shown in a single reference.” In re Bond, 15 USPQ2d 1566, 1567 (Fed. Cir. 1990) (quoting Diversitech, 7 USPQ2d 1315). In addition, that single reference must arrange the elements exactly as in the claim under review, although identity of terminology is not required. *Id.*

In addition, when inherency is asserted extrinsic evidence must be cited to show that the missing descriptive matter is necessarily present in the thing described in the reference:

To establish inherency, the *extrinsic evidence* [emphasis added] “must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.” Continental Can Co. v. Monsanto Co., 948 F.2d 1264, 1268, 20 U.S.P.Q.2d 1746, 1749 (Fed. Cir. 1991). “Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *Id.* at 1269, 20 U.S.P.Q.2d at 1749 (quoting In re Oelrich, 666 F.2d 578, 581, 212 U.S.P.Q. 323, 326 (C.C.P.A. 1981)).

In re Robertson, (Fed. Cir. 1999) 169 F.3d 743, 745; 49 U.S.P.Q.2d 1949.

Obviousness Rejections Under 35 USC § 103

The Supreme Court has set forth the following general standard with respect to any determination of obviousness:

“Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.”

Graham v. John Deere Co. of Kansas City, 383 U.S. 1, 17-18, 86 S. Ct. 684, 15 L. Ed. 2d 545 (1966), quoted approvingly by *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734 (U.S. 2007).

When performing this analysis, all claim limitations must be considered. See, e.g., MPEP § 2143.01. At the same time, the analysis requires a determination as to whether the claimed invention “as a whole” would have been obvious just before the claimed invention was made to person of ordinary skill in the art. See, e.g., MPEP § 2142.

It is noted that, “rejections on obviousness cannot be sustained with mere conclusory statements...” MPEP § 2142, quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006), which in turn was quoted approvingly by the Supreme Court in *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1395-97 (2007). In addition, “impermissible hindsight must be avoided and the legal conclusion [regarding obviousness] must be reached on the basis of the facts gleaned from the prior art.” MPEP § 2142.

More specifically, “the examiner must provide evidence which as a whole shows that the legal determination sought to be proved (i.e., the reference teachings establish a *prima facie* case of obviousness) is more probable than not.” MPEP § 2142.

Finally, even where all of a claim’s limitations can be found in the prior art, the examiner must provide a convincing reason as to why one of ordinary skill in the art would have been prompted to combine such limitations in the same manner as recited in claim.

“Although common sense directs one to look with care at a patent application that claims as innovation is the combination of two known

devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.”

KSR Int'l Co. v. Teleflex Inc., 127 S. Ct. 1727, 1741 (U.S. 2007).

Rejection Under 35 U.S.C. § 101

Claims 10, 13, 15-18, and 27-34

Independent claim 10 recites, “A computer-readable medium having stored thereon instructions for . . . the instructions comprising the steps of . . .” The Examiner argues that claim 10,

“as it is written, is broad enough to read on a program listing or pseudo-code stored on a floppy or optical disk. A program listing is representative of non-functional descriptive material and a claim directed to non-functional descriptive material whether or not it is stored on a computer readable medium is non-statutory.”

Claims 13, 15-18 and 27-34 are then rejected based on their dependencies from claim 10.

In response, Appellant first notes that while it has been held that a computer program listing by itself would be non-statutory, a computer-readable medium encoded with a program listing or code clearly is statutory subject matter. For example, M.P.E.P. § 2106.01 specifically provides,

“In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program’s functionality to be realized, and is thus statutory.”

The present claim language is intended to be, and is believed to be, substantively identical to the language used in M.P.E.P. § 2106.01. Accordingly, the present § 101 rejection is believed to be improper.

With regard to the examiner's reference to "pseudo-code", it is unclear what precise meaning the Examiner is attaching to this term. However, it is noted that, generally speaking, instructions are capable of being executed by a computer, provided the appropriate corresponding compiler or interpreter is available. Accordingly, any arguments that instructions encoded on a computer readable medium could be "pseudo-code" should not affect the conclusion that the computer-readable medium itself is statutory subject matter.

For the foregoing reasons, Appellant respectfully requests reversal of this rejection.

Rejection Under 35 U.S.C. § 112, second paragraph

Claims 6 and 15

The present claims recite, "wherein the model is based on traditional logistical regression theory and on the maximum utility theory." In rejecting these claims, the Examiner argues that, "Applicant has not provided one of ordinary skill with a specific methodology for combining the two theories for producing the model."

In response to this argument, Appellant previously pointed out that the example given in the Specification from page 10 line 22 through page 11 line 9 does in fact provide such a specific methodology. However, in the present final rejection, the Examiner has simply maintained the rejection without addressing this response.

Accordingly, Appellant continues to believe that the rejection of claims 6 and 15 under § 112, second paragraph, is improper.

Claims 21 and 29

The Examiner rejects claims 21 and 29 based on an argument that there allegedly is insufficient antecedent basis for the term “the shopping behavior” in such claims. In response, Appellant previously pointed out that the penultimate clause of claims 1 and 10 (from which claims 21 and 29, respectively, depend) recites, “... a model for simulating *shopping behavior* as a function of...”, which clearly provides the appropriate antecedent basis. However, in the present final rejection, the Examiner has simply maintained the rejection without addressing this response.

For the foregoing reasons, Appellant continues to believe that the rejection of claims 21 and 29 under § 112, second paragraph, is improper.

Rejection Under 35 U.S.C. § 102(b) Over Gerace

Claims 1, 10, 19, 20, 23, 25-28, 31, 33-35, 37, 38, 40 and 41

Independent claims 1 and 10 are directed toward predicting whether an on-line shopper will be converted into becoming a purchaser of an item based on sales promotions offered by an on-line vendor. Initially, the following information is stored: customer profile information corresponding to a plurality of on-line shoppers, web log information corresponding to the plurality of on-line shoppers, and promotion attributes corresponding to a plurality of sales promotions that have been offered. Such information then is input into a model for simulating shopping behavior as a function of

the customer profile information and the promotion attributes. Finally, promotions are offered based on the model.

The foregoing combination of features is not disclosed by the applied art. For example, Gerace does not disclose anything at all about: storing promotion attributes corresponding to a plurality of sales promotions that have been offered, simulating shopping behavior as a function of such promotion attributes, or offering promotions based on the resulting model.

Independent claim 35 is directed toward predicting what types of on-line shoppers will make purchases based on offered sales promotions. Initially, the following information is obtained: profile information for a plurality of shoppers; a set of promotion attributes pertaining to sales promotions that were offered to the shoppers; and behavioral information regarding the on-line shopping behaviors of the shoppers. Based on the behavioral information, a mathematical model is used to relate the promotion attributes to the profile information in order to estimate effectiveness of a particular sales promotion with respect to at least one specified shopper. Finally, promotions are offered based on the mathematical model.

The foregoing combination of features is not disclosed by the applied art. For example, Gerace does not disclose anything at all about: obtaining a set of promotion attributes pertaining to sales promotions that were offered to shoppers, using a mathematical model to relate such promotion attributes to shopper profile information in order to estimate effectiveness of a particular sales promotion, or offering promotions based on the mathematical model.

At the outset, it is noted that the term “promotions”, as used in the present claims, refers to the substantive terms of deals that are used to attract customers. Thus, independent claims 1, 10 and 35 recite “sales promotions that have been [or were] *offered*” and also recite “*offering* promotions”.

This definition of the term “promotions” is consistent and uniform throughout the Specification. For example, page 9 lines 15-17 of the Specification notes that,

“A promotion is defined as a set of attributes. For example, it can consist of the following: discount rate, free shipping & handling, rebate, special event promotional discount.”

Similarly, page 7 line 27 through page 8 line 2 of the Specification explains,

“Promotions can include sales, upgrades, extended warranties, buy-one-get-one free, financing packages, free options, rebates, coupons, donations to charities, free gifts, etc.”

Page 2 lines 2-6 of the Specification notes that

“... on-line retailers can offer promotions such as sales, buy-one-get-one-free, donating a portion of the sale to a customer’s favorite charity, extended warranties, frequent-buyer programs, upgrades, financing packages, etc. However, the more promotions lavished into converting potential customers . . .”

Page 3 lines 6-7 of the Specification refers to “promotions offered by an on-line vendor”.

By simulating shopping behavior as a function of customer profile information and promotion attributes, and/or by using a mathematical model to relate the promotion attributes to the profile information in order to estimate effectiveness of a particular sales promotion, and then offering promotions based on the resulting model, the present invention often is able to more effectively target promotions, thereby reducing a merchant’s costs and more accurately satisfying the needs and wants of customers.

In contrast, Gerace appears to be solely concerned with generating a user profile for delivering certain kinds of information, which Gerace refers to as “agate” information.

As explained in Gerace, “agate” information is time-sensitive reference information that is not read linearly, such as telephone listings, classified advertisements, weather reports, sports scores and statistics, market data, books and recordings in print, television and film listings and advertisements. See, e.g., column 1 lines 6-13 and column 2 lines 63-66 of Gerace.

Although targeting individual advertisements appears to be one application of Gerace’s technique, there is absolutely no indication in Gerace that such targeting is based in any manner on *promotion* attributes, as presently recited. Rather, Gerace’s information targeting is based on “psychographic” and demographic profiles that are generated for an individual user. See, e.g., column 2 lines 31-34 of Gerace.

In Gerace, the psychographic profile is inferred from user viewing activity and reflects user preferences “with respect to color schemes, text size, shapes, and the like,” and so can be used “to customize presentation (format) of agate information.” See, e.g., column 2 lines 10-23 of Gerace. Gerace’s technique also “performs a regression analysis on the recorded history of users viewing the ads [which] weights the relative importance of psychographic and/or demographic characteristics of users.” See, e.g., column 2 lines 42-53 of Gerace.

Although Gerace mentions targeting advertisements based on both content and presentation/format of an advertisement, there is almost no indication as to what Gerace considers to be “content” of the advertisement. In fact, it appears that the only descriptions regarding the meaning of “content” in Gerace are at: column 17 lines 66-67, stating, “the ad content and information are stored in the Ad Objects 33d”; column

12 lines 42-56, which provides a limited description of some of the components of an Ad Object 33d; and Figure 5D which illustrates an Ad Object 33d.

These portions of Gerace indicate that “content” refers only to the specific material that is included within the advertisement. Gerace says nothing at all about distinguishing advertisements by considering how such different kinds of material might be substantively related to each other. More specifically, Gerace only appears to distinguish advertisements based on their exact makeup, not on the terms of any promotions that might be included within them.

The particular portions of Gerace cited by the Examiner as pertaining to the above-referenced features of the invention are Gerace’s: Abstract; Figures 5A-D; column 5, lines 15-40; column 1, lines 5-13; column 2, lines 10-23 and 35-53; column 5, lines 8-26; column 7, lines 23-38; and column 18, lines 10-25.

However, none of such portions of Gerace appears to say anything at all about *any offered sales promotion*, much less about attributes pertaining to any *offered sales promotion* or the use of such promotion attributes, as presently recited. Instead, the Examiner appears to be arguing that the presently recited “promotions” read on Gerace’s advertisements. However, such a reading is clearly improper for at least the following reasons.

As noted above, Gerace delivers advertisements based on the specific content included and how that content is formatted, but does not look at the attributes of any promotions that are being offered as a basis for targeting its advertisements. Thus, while Gerace has some similarities to the present invention, a number of the presently recited features are simply not disclosed by Gerace.

Accepting such a construction of the presently recited term “promotion” would be inconsistent with the rest of the claim language. As noted above, the present claims recite “sales promotions that have been [or were] *offered*” and also recite “*offering* promotions”. On the other hand, an advertisement is not “offered”; it is displayed or presented.

In short, the meaning of the term “promotion”, as presently recited, is clear based on the claim language itself and all of the references throughout the Specification; it necessarily refers to the substantive terms of a deal that is used to attract customers. Gerace says absolutely nothing at all about such a promotion or any processing involving promotions and promotion attributes, as presently recited.

Accordingly, independent claims 1, 10 and 35, together with their dependent claims 19, 20, 23, 25-28, 31, 33, 34, 37, 38, 40 and 41, are believed to be allowable over the applied art.

Claims 21 and 29

Claim 21 depends from independent claim 1, and claim 29 depends from independent claim 10 (discussed above). Each recites the further limitation of storing product information corresponding to a plurality of products offered for sale by the on-line vendor and inputting the product information into the model, with the shopping behavior also simulated as a function of the product information. This additional feature of the invention is not disclosed by the applied art. In fact, the Examiner has not even argued that it is.

Accordingly, claims 21 and 29 are believed to be allowable over the applied art.

Claims 22 and 30

Claim 22 depends from independent claim 1, and claim 30 depends from independent claim 10 (discussed above). Each recites the further limitation of using the model to compute a percentage likelihood that a shopper will be converted into becoming a purchaser. This additional feature of the invention is not disclosed by the applied art.

The Examiner argues,

“Gerace teaches using input such as buyer purchases (column 2, lines 35-42; column 9, lines 8-15; column 13, lines 1-32) to adjust how ads are displayed to customers (column 18, lines 10-25). Therefore, as some customers are excluded from the population of customers who are to view ads (column 18, lines 18-26) the system of Gerace necessarily calculates a percentage likelihood that one customer is more likely to make a purchase over another.”

In response, Appellant notes that the above-referenced feature of the invention is not inherent in steering advertisements to some customers and not to others. In fact, many automated techniques for making decisions (apparently including Gerace's) do so without ever computing a percentage likelihood that the decision is correct (e.g., in this case, that a shopper will be converted into becoming a purchaser). For example, a common technique is to simply apply weights or weighting formulas to known data and then make the decision based on the resulting score, without ever computing any such percentage likelihood.

For these additional reasons, claims 22 and 30 are believed to be allowable over the applied art.

Claims 24, 32 and 39

Claim 24 depends from independent claim 1, claim 32 depends from independent claim 10, and claim 39 depends from independent claim 35 (discussed above). Each recites the further limitation of using a simulator based on the model, varying promotion attributes input into the simulator, and then observing results generated by the simulator. This additional feature of the invention is not disclosed by the applied art.

The Examiner cites column 1, lines 5-13; column 2, lines 10-23 and 35-53; column 5, lines 8-26; column 7, lines 23-38; column 18, lines 10-25 of Gerace as allegedly showing this feature of the invention. However, no explanation has been provided as to how such portions of Gerace allegedly disclose this feature, and Appellant does not believe they do.

Rather, column 1, lines 5-13 of Gerace merely describes age information. Column 2, lines 10-23 of Gerace merely discusses generation of a user profile. Column 2, lines 35-53 of Gerace merely discusses tracking user activity and using it to target audiences. Column 5, lines 8-26 of Gerace merely discusses delivery of customized content to a user. Column 7, lines 23-38 of Gerace merely discusses the data, including advertisements, that are delivered to a user. Column 18, lines 10-25 of Gerace merely discusses automatic weighting for use in targeting content.

For these additional reasons, claims 24, 32 and 39 are believed to be allowable over the applied art.

Rejection Under 35 U.S.C. § 103(a) Over Gerace

Claims 4 and 13

Claim 4 depends from independent claim 1, and claim 13 depends from independent claim 10 (discussed above). Each recites the further limitation that the model comprises a logistic regression model. This additional feature of the invention is not disclosed or suggested by the applied art. In fact, the Examiner has not even argued that it is.

Accordingly, claims 4 and 13 are believed to be allowable over the applied art.

Claims 6 and 15

Claim 6 depends from claim 4, and claim 15 depends from claim 13 (discussed above). Each recites the further limitation that the model is based on traditional logistical regression theory and on the maximum utility theory. This additional feature of the invention is not disclosed or suggested by the applied art. In fact, the Examiner has not even argued that it is.

Accordingly, claims 6 and 15 are believed to be allowable over the applied art.

Claims 7 and 16

Claim 7 depends from independent claim 1, and claim 16 depends from independent claim 10 (discussed above). Each recites the further limitation that the customer profile information includes age, sex, religion, income, ethnicity, marital status, geographical location, number of children, interests, hobbies, spending habits, and zip code. This additional feature of the invention is not disclosed or suggested by the applied art.

In fact, the Examiner points to nothing in Gerace that would have suggested using the combination of customer profile information presently recited. Rather, the Examiner simply concludes, without any support, “it would have been obvious to one of ordinary skill to collect whatever customer, customer internet history, or advertisement data necessary in order to more effectively target ads to customers.”

Such a conclusory statement is contrary to the standards set out above for making an obviousness rejection. In particular, as noted above, MPEP § 2142 specifically precludes basing an obviousness rejection on such a conclusory statement.

For these additional reasons, claims 7 and 16 are believed to be allowable over the applied art.

Claims 8 and 17

Claim 8 depends from independent claim 1, and claim 17 depends from independent claim 10 (discussed above). Each recites the further limitation that the customer web log information includes data regarding when a customer accessed a web site, how long the customer visited the web site, which items were of interest, how the customer heard about the web site, whether the customer saw a promotion, whether the customer was motivated to taking action as a result of the promotion, whether the customer inspected an item, whether the customer put the item back, whether the customer bought the item, and a quantity of items purchased. This additional feature of the invention is not disclosed or suggested by the applied art.

In fact, the Examiner points to nothing in Gerace that would have suggested using the combination of customer web log information presently recited. Rather, the Examiner simply concludes, without any support, “it would have been obvious to one of

ordinary skill to collect whatever customer, customer internet history, or advertisement data necessary in order to more effectively target ads to customers.”

Such a conclusory statement is contrary to the standards set out above for making an obviousness rejection. In particular, as noted above, MPEP § 2142 specifically precludes basing an obviousness rejection on such a conclusory statement.

For these additional reasons, claims 8 and 17 are believed to be allowable over the applied art.

Claims 9, 18 and 42

Claim 9 depends from independent claim 1, claim 18 depends from independent claim 10, and claim 42 depends from independent claim 35 (discussed above). Each recites the further limitation that the promotion attributes include at least one of sales, upgrades, extended warranties, buy-one-get-one free, financing packages, free options, rebates, coupons, donations to charities, and free gifts. This additional feature of the invention is not disclosed or suggested by the applied art.

In fact, the Examiner points to nothing in Gerace that would have suggested any such promotion attributes. Rather, the Examiner simply concludes, without any support, “it would have been obvious to one of ordinary skill to collect whatever customer, customer internet history, or advertisement data necessary in order to more effectively target ads to customers.”

At the outset, it is noted that the Examiner's statement, quoted above, has nothing at all to do with the limitation recited in the present claims. In fact, it says nothing at all about why it allegedly would have been obvious to use one or more of the

recited promotion attributes within the presently recited context based on the applied art.

In addition, the Examiner's conclusory statement is contrary to the standards set out above for making an obviousness rejection. In particular, as noted above, MPEP § 2142 specifically precludes basing an obviousness rejection on such a conclusory statement.

For these additional reasons, claims 9, 18 and 42 are believed to be allowable over the applied art.

VIII. CONCLUDING REMARKS

As Appellant has shown above, for a number of reasons, nothing in the cited references discloses, teaches, or suggests the invention recited by the claims on appeal. Appellant therefore respectfully submits that the claimed invention is patentably distinct over the applied art.

In view of the foregoing remarks, Appellant respectfully requests that the rejection of claims 1, 4, 6-10, 13, 15-35 and 37-42 be reversed and a Notice of Allowance issued.

Respectfully submitted,

JOSEPH G. SWAN, A PROFESSIONAL CORP.

Dated: February 11, 2008

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CLAIMS APPENDIX

Claims on Appeal

1. A method for predicting whether an on-line shopper will be converted into becoming a purchaser of an item based on sales promotions offered by an on-line vendor, comprising the steps of:

storing customer profile information corresponding to a plurality of on-line shoppers;

storing customer web log information corresponding to the plurality of on-line shoppers;

storing promotion attributes corresponding to a plurality of sales promotions that have been offered;

inputting the customer profile information, the web log information and the promotion attributes into a model for simulating shopping behavior as a function of the customer profile information and the promotion attributes; and

offering promotions based on the model.

2. (Canceled)

3. (Canceled)

4. The method of Claim 1, wherein the model comprises a logistic regression model.

5. (Canceled)

6. The method of Claim 4, wherein the model is based on traditional logistical regression theory and on the maximum utility theory.

7. The method of Claim 1, wherein customer profile information includes age, sex, religion, income, ethnicity, marital status, geographical location, number of children, interests, hobbies, spending habits, and zip code.

8. The method of Claim 1, wherein the customer web log information includes contains data regarding when a customer accessed a web site, how long the customer visited the web site, which items were of interest, how the customer heard about the web site, whether the customer saw a promotion, whether the customer was motivated to taking action as a result of the promotion, whether the customer inspected an item, whether the customer put the item back, whether the customer bought the item, and a quantity of items purchased.

9. The method of Claim 1, wherein the promotion attributes include at least one of sales, upgrades, extended warranties, buy-one-get-one free, financing packages, free options, rebates, coupons, donations to charities, and free gifts.

10. A computer-readable medium having stored thereon instructions for predicting whether an on-line shopper will be converted into becoming a purchaser of an item based on sales promotions offered by an on-line vendor, the instructions comprising the steps of:

storing customer profile information corresponding to a plurality of on-line shoppers;

storing customer web log information corresponding to the plurality of on-line shoppers;

storing promotion attributes corresponding to a plurality of sales promotions that have been offered;

inputting the customer profile information, the web log information and the promotion attributes into a model for simulating shopping behavior as a function of the customer profile information and the promotion attributes; and

offering promotions based on the model.

11. (Canceled)

12. (Canceled)

13. The computer-readable medium of Claim 10, wherein the model comprises a logistic regression model.

14. (Canceled)

15. The computer-readable medium of Claim 13, wherein the model is based on traditional logistical regression theory and on the maximum utility theory.

16. The computer-readable medium of Claim 10, wherein customer profile information includes age, sex, religion, income, ethnicity, marital status, geographical location, number of children, interests, hobbies, spending habits, and zip code.

17. The computer-readable medium of Claim 10, wherein the customer web log information includes contains data regarding when a customer accessed a web site, how long the customer visited the web site, which items were of interest, how the customer heard about the web site, whether the customer saw a promotion, whether the customer was motivated to taking action as a result of the promotion, whether the customer inspected an item, whether the customer put the item back, whether the customer bought the item, and a quantity of items purchased.

18. The computer-readable medium of Claim 10, wherein the promotion attributes include at least one of sales, upgrades, extended warranties, buy-one-get-one free, financing packages, free options, rebates, coupons, donations to charities, and free gifts.

19. A method according to Claim 1, further comprising a step of using the model to tailor sales promotions to individual shoppers.

20. A method according to Claim 19, wherein sales promotions automatically are customized to a shopper based on customer profile information for said shopper.

21. A method according to Claim 1, further comprising steps of storing product information corresponding to a plurality of products offered for sale by the on-line vendor and inputting the product information into the model, and wherein the shopping behavior also is simulated as a function of the product information.

22. A method according to Claim 1, further comprising a step of using the model to compute a percentage likelihood that a shopper will be converted into becoming a purchaser.

23. A method according to Claim 1, further comprising a step of using the model to simulate a conversion of a shopper into a purchaser.

24. A method according to Claim 1, further comprising steps of using a simulator based on the model, varying promotion attributes input into the simulator, and then observing results generated by the simulator.

25. A method according to Claim 1, further comprising a step of continuously updating and improving the model based on new information.

26. A method according to Claim 1, further comprising a step of using an optimization engine to generate statistically driven sales promotion plans that have been optimized with respect to at least one objective function.

27. The computer-readable medium of Claim 10, wherein the instructions further comprise a step of using the model to tailor sales promotions to individual shoppers.

28. The computer-readable medium of Claim 27, wherein sales promotions automatically are customized to a shopper based on customer profile information for said shopper.

29. The computer-readable medium of Claim 10, wherein the instructions further comprise steps of storing product information corresponding to a plurality of products offered for sale by the on-line vendor and inputting the product information into the model, and wherein the shopping behavior also is simulated as a function of the product information.

30. The computer-readable medium of Claim 10, wherein the instructions further comprise a step of using the model to compute a percentage likelihood that a shopper will be converted into becoming a purchaser.

31. The computer-readable medium of Claim 10, wherein the instructions further comprise a step of using the model to simulate a conversion of a shopper into a purchaser.

32. The computer-readable medium of Claim 10, wherein the instructions further comprise steps of using a simulator based on the model, varying promotion attributes input into the simulator, and then observing results generated by the simulator.

33. The computer-readable medium of Claim 10, wherein the instructions further comprise a step of continuously updating and improving the model based on new information.

34. The computer-readable medium of Claim 10, wherein the instructions further comprise a step of using an optimization engine to generate statistically driven sales promotion plans that have been optimized with respect to at least one objective function.

35. A method for predicting what types of on-line shoppers will make purchases based on offered sales promotions, comprising:
obtaining profile information for a plurality of shoppers;
obtaining a set of promotion attributes pertaining to sales promotions that were offered to the shoppers;

obtaining behavioral information regarding on-line shopping behaviors of the shoppers;

based on the behavioral information, using a mathematical model to relate the promotion attributes to the profile information in order to estimate effectiveness of a particular sales promotion with respect to at least one specified shopper; and

offering promotions based on the mathematical model.

36. (Canceled)

37. A method according to Claim 35, further comprising a step of using the mathematical model to tailor sales promotions to individual shoppers.

38. A method according to Claim 37, wherein sales promotions automatically are customized to a shopper based on customer profile information for said shopper.

39. A method according to Claim 35, further comprising steps of using a simulator based on the mathematical model, varying promotion attributes input into the simulator, and then observing results generated by the simulator.

40. A method according to Claim 35, further comprising a step of continuously updating and improving the mathematical model based on new information.

41. A method according to Claim 35, further comprising a step of using an optimization engine to generate statistically driven promotion plans that have been optimized with respect to at least one objective function.

42. A method according to Claim 35, wherein the promotion attributes include at least one of sales, upgrades, extended warranties, buy-one-get-one free, financing packages, free options, rebates, coupons, donations to charities, free gifts, discount rate, free shipping and handling, rebate and special event promotional discount.

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EVIDENCE APPENDIX

None

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RELATED PROCEEDINGS APPENDIX

None